

Development of an animal based tool for the on-farm welfare assessment of pigs

Ian Barugh

Institute Food Nutrition and Human Health, Massey University, New Zealand.

Introduction

The New Zealand Pork Industry has the Code of Welfare 2005 (Pigs) as its primary welfare legislation. It is based on twenty minimum standards and has recommendations for the care of pigs. The minimum standards are primarily facilities based.

The objective of the project detailed here was to quantify animal based welfare outcomes by observing pigs and pig behaviour and linking this into good husbandry practices. Firstly welfare indicators were identified to assess and quantify the *on-farm* welfare status of pigs. Secondly a system (welfare assessment tool) was developed to interpret these indicators and link them to the 20 minimum standards contained in the Code of Welfare 2005 (Pigs). The “tool” developed had to fit the following criteria; be a valid measure of pig health and welfare, accurate in providing a true reflection of the current welfare status, reliable and repeatable, robust and practical and clear and adaptable. Thus the tool would be suitable for use by various inspectors, in a range of production systems.

Welfare indicators

The welfare indicators were selected in consultation with parties of interest including pork producers, pork industry representatives and technical staff, pig veterinarians, National Welfare Advisory Committee and the Royal New Zealand Society for the Prevention of Cruelty to Animals.

The aim of the project was to “capture” in a formal manner the husbandry skills of farm staff and to quantify the concept of “stockmanship” and “stock sense”.

Welfare assessment tool

The “tool” developed had a series of primary animal based indicators including, vocalisation/noise, appearance (skin and body condition), behaviour, mobility and faeces condition linked to minimum standards.

Supplementary sheets were developed to expand and quantify the primary indicators listed to provide indices for reference and provide ranges of acceptable limits. These

supplementary sheets included a body condition score chart and tables for calculations of prevalence of lesions and injuries.

Supplementary information: Hunger and thirst

a. Animal indices

Interpretation of the generic animal-based indicators, specifically applied to hunger and thirst, includes the following:

Vocalisation / noise

If the animals have insufficient access to water, the noise level may be elevated, and there may be squealing etc. This is related to Behaviour and Mobility (see below).

Physical appearance

- Primarily consider the *body condition score* (refer to an appropriate chart):
 - this should be appropriate for the production stage
 - it is also important to note the variability (between individuals and between groups)
 - no animals should have a score under 2.5, except where the carer can demonstrate that remedial action is being undertaken. Depending on the cause, euthanasia may need to be considered as an alternative to alleviate suffering
- Hunger and thirst may also lead to competitive aggression, which may be visible as skin *scratches and lesions*.
- Indicators of chronic underfeeding may include *prominent backbone* and a *hairy appearance*. There may be a higher prevalence of *shoulder ulcers* than expected.
- In sows (especially in outdoor systems), the *udder shape* may indicate too little access to water.

Behaviour

Behavioural indicators of hunger and thirst include:

- Agitation and bossiness; fighting.
- Restlessness.
- Attraction to water: the pigs will smell and compete for a bucket of water, if introduced into the pen.

Figure 1: Primary animal based indicators

Scoring animal based indicators

The animal based indicators were scored by the assessors via a traffic light system of green, amber and red. If an amber or red score was recorded, follow up action to identify the cause was undertaken to determine if there was a breach of minimum standard as per the Code of Welfare 2005 (Pigs).

The tool is designed to be modular, *i.e.*: tailored to farm-specific production features / system thus allowing assessment of multi site and multi shed production systems which are common in New Zealand's pork production industry.

1. Hunger and thirst

Animal-based indicators		Animal Welfare (Pigs) Code of Welfare 2005
- Vocalisation / noise		Minimum Standard No.1 – Feed (a) Feeding frequency (b) Feed delivery (c) Feed quantity to: (i) maintain good health (ii) meet physiological requirements (iii) avoid metabolic & nutritional disorders (d) Daily check of automatic feeding systems (e) / (f) Maintenance of body condition score at or above 2.5 / remedial action if lower <input type="checkbox"/> OK <input type="checkbox"/> not OK
- Physical appearance		
- Behaviour		
- Mobility		
- Faeces		
- Vocalisation / noise		Minimum Standard No.3 – Watering Systems (a) Accessibility of palatable water to all pigs (b) Pigs on pasture: access to sufficient water (c) Daily check of automatic watering systems (d) Sufficient supply, with reserves to cope with 24 hour demand (e) Alternative arrangements in case of equipment failure (f) Appropriate height for size of the delivery system for the animals (g) Appropriate water temperature <input type="checkbox"/> OK <input type="checkbox"/> not OK
		Minimum Standard No.2 – New-Born Piglets (a) Supply of colostrum or appropriate substitute to all piglets within 24 hours of birth

Figure 2: Traffic light scoring system

On-farm experience

On farm experiences using the animal based indicators tool demonstrated the tool was:

- Practical and quick to use
- Different assessors achieved similar scores
- It was animal-focused first, environment-focused second
- It was sensitive, *i.e.* highlighted the issues
- The query / comments section on the sheet was useful to expand upon various observations

Future use

Development of this “welfare assessment tool” and its validation by *on-farm* experience has led to the submission of a research proposal to validate the tool as a true indicator of animal welfare. Validation is crucial in providing assurances and demonstrating that the subjective assessment provided by the “welfare assessment tool” meets the standards of the objective measures provided by the Code of Welfare 2005 (Pigs).